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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/986,913 | 11/13/2001 | Satoshi Gocho | 1186.1020 | 6641 |

21171 7590 09/22/2004

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| EXAMINER |
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DICUS, TAMRA

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| ART UNIT | PAPER NUMBER |
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1774

DATE MAILED: 09/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

S.C.

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|------------------------------|--------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 09/986,913 | Applicant(s) GOCHO ET AL. | |
| | Examiner Tamra L. Dicus | Art Unit 1774 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 28-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 28-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner acknowledges cancellation of claim 27. The 112 rejection is withdrawn due to Applicant's amendments.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3-9, 11-16-21, 23-16, and 28-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,284,337 to Lorimor et al. in view of USPN 5,800,950 to Hirao et al., and further in view of USPN 6,124,970 to Karassev et al.

8. Lorimor teaches a durable security laminate with a heat shrinkable layer. Lorimor's laminate comprises an emblem layer with liquid crystal polymers or pearlescent pigments such as titania. The reason Lorimor includes a liquid crystalline polymer is to change colors with the viewing angle. See col. 5, lines 14-15. The emblem layer is a hologram (OVD) and is either on the protective layer (claim 6) or low adhesion coating. This emblem layer may be hidden (latent image formation layer) or visible. See col. 5, lines 1-15. Two emblem layers (14) are also provided for (Fig. 2) and col. 5, line 8, which are also considered an optical layer having light reflectivity and specular reflection (claims 4, 5, 12, 13, 14, 23, 24, & 25). The protective layer is made of the same materials as Applicant claims, see col. 4, lines 20-25, and hence has the same

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associated light transmissivity/scattering properties of instant claims 6, 7, 15, 16, 26, & 27.

Lorimor teaches an adhesive layer also (sticky base layer) at col. 5, lines 53-68 on the protective layer/emblem layer. Regarding claims 30-31, Lorimor teaches in Example 1 adhesive (base) coated on a silicone release liner (release layer). Lorimar teaches a light reflective substrate with a light reflective surface, such as paper Example 1 (claim 9). Also in Example 1 Lorimar teaches a laminated card (laminated structure of an information-recorded substrate) (claim 11).

Regarding instant claim 17, Lorimor teaches an additional base layer adhesive (16) between the information-recorded substrate (document 18) and optical layer and latent image (emblem(s) 14).

Hirao teaches a recording element that is laminated and has the polymer, which is capable of forming a liquid crystal phase having a nematic or smectic molecular configuration. It would have been obvious to one of ordinary skill in the art to modify the laminate of Lorimor to include liquid crystals arranged nematically, cholesterically, or smectically as instant claims require because Hirao teaches such arrangements are conventional for liquid crystals as shown in Figures 9 and 10 for the purpose of providing optical ionization as taught by Hirao at col. 20, lines 1-30. Lorimor nor Hirao teach visualizing the laminated film close to a polarizer to visualize the latent image imparting forgery-preventing characteristics as per instant claims 1, 9, 21, and 33-35. Karassev teaches polymer materials with patterned latent images (further to instant claim 35) visible in polarized light. Karassev discovered viewing a liquid crystal polymeric film having differing amorphous and crystallinity degrees between polarizers is an innovative method for verifying genuineness of documents to ultimately prevent forgery (col. 4, lines 15-30). See col. 4, lines 24-30 and lines 45-68, col. 5, lines 1-30, col. 6, lines 50-68, col. 7, Figures 1-8, and patented claim 1. Karassev also explains the latent image laminate can be

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attached to paper, polarizers, and a transparent layer for use in banknotes and securities (col. 7, lines 44-50). It would have been obvious to one of ordinary skill in the art to modify the combination of Lorimor and Hirao to visualize the laminate of Lorimor and Hirao with a polarizer for forgery prevention because Karashev teaches viewing a liquid crystal polymeric film between polarizers is an innovative method for verifying genuineness of documents to ultimately prevent forgery (col. 4, lines 15-30 and col. 5, lines 1-30 of Karashev). Also further regarding claims 17, 19, and 29-30, Karashev teaches and shows various structures of the latent image laminate including a base and a sticky layer such as any of the light-scattering, polarizing, reflective, and quarter-wavelength (optical layers), on top of a document (col. 7, lines 1-20 and lines 44-60 and Figures 7-9). It would have been obvious to one of ordinary skill in the art to modify the laminate of Lorimor to include a structure as instant claim 17 because Karashev teaches the various aforesaid layers that include a base, light reflective substrates, latent images, and optical layers in a multilayered fashion on top of a document for a using different effects for security type elements as Karashev explains in col. 7 and illustrates in Figures 7-9. Lorimor does not teach that the liquid crystalline polymer is arranged wherein the nematic, cholesteric, or smectic molecular configuration (by definition chloesteric and smectic structures are non-oriented and oriented LCP chains) as per instant claims 1, 6, 9, 11, 21 and 26. Lorimor teaches a polarizing film, but is silent to the shape of the polarizer of claims 8, 20, and 32. Karashev teaches a polarizer in a circularly shape at col. 7, lines 1-5. Therefore, it would have been obvious to one of ordinary skill in the art to modify the laminate of Lorimor to include a polarizer in a circularly shape because Karashev teaches circular polarizers assist in polarized visualization of a latent image at col. 7, lines 1-5. Lorimor does not teach an additional sticky

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layer between an information –recorded substrate and base of instant claim 19, however, Lorimor, as aforementioned, already teaches two adhesives 12 and 16, further adding another adhesive sticky layer is optimizable as doing so increases the adhesion strength of the laminate. Additionally, the mere duplication of parts has no patentable significance unless a new and unexpected result is produced.

9. Claims 2, 10, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN USPN 6,284,337 to Lorimor et al. in view of USPN 5,800,950 to Hirao et al., and further in view of USPN 6,124,970 to Karassev et al., and further in view of JP 03118198 to Kijima et al.

While Lorimor teaches a liquid crystalline polymer, Lorimor is also silent to a thermotropic type of liquid crystalline polymer (claims 2, 10, & 22). Kijima teaches a card and image forming method having a metal reflecting layer (optical layer having light reflectivity), a liquid crystal polymer layer of a thermotropic type, and polarizing film laminated to a card base. See Abstract. Figure 1 shows the optical layer on the latent image liquid crystal polymer layer (further to instant claim 4). Hence one would be motivated to provide a thermotropic type of liquid crystalline polymer to the laminate of Lorimor since Kijima teaches the application of such layers are conventional enabling a card capability of preventing forgery and the liquid polymer provides the appropriate melting point as taught by Kijima in the Abstract.

Response to Arguments

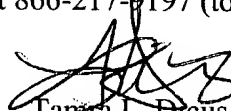
14. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. Applicant argues the new limitations to viewing through polarizers for forgery prevention; however, Karassev is used to teach these limitations.

Conclusion

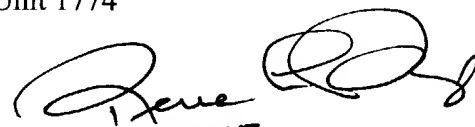
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is 571-272-1519. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tamra L. Dicus
Examiner
Art Unit 1774

September 16, 2004


RENA DYE
SUPERVISORY PATENT EXAMINER
A.U. 1774